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ABSTRACT

This study, a follow-up to an earlier study which found declining rates of enrollment at institutions of higher education in Minnesota, examined the specifics of this trend. Major findings indicated: (1) the 1990s have seen a serious decline in high school graduate enrollment in Minnesota colleges; (2) the decline cannot be accounted for by more students enrolling in out-of-state institutions or by delaying enrollment for a year or two after graduation; (3) nationally, participation rates remained stable during the first half of the 1990s and have increased since then; thus, Minnesota's participation rank has dropped from ninth to twenty-first place; (4) looking at individual school districts shows that over two-thirds of districts are sending a smaller proportion of graduates to college in 1996 than in 1987; (5) rural districts have had greater declines overall than urban districts; (6) although both male and female participation rates have declined, the decline is greater among females; (7) whites and Asians had both the highest participation rates and the greatest declines; (8) academically, freshmen in 1996 are performing at higher levels than their counterparts in 1987; and (8) several factors may be contributing to declining participation a strong economy, increased costs of attendance, and stricter preparation requirements. (DB)

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December 1998

Participation of New High School Graduates in Higher Education

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December 1998

Participation of New High School Graduates in Higher Education

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Summary of Findings

This paper is a follow-up to a report from January of this year which analyzed declines in Minnesota higher education enrollment, particularly in the Minnesota State Colleges and Universities (MnSCU). One finding that came out of that study was that the "participation rate" — the proportion of new high school graduates enrolling in college the following fall — had declined in the last ten years. While new high school graduates are not the only component of higher education enrollment, they are by far the largest, making up about two-thirds of new entering freshmen (NEF) each year at the state's four-year institutions.

This paper reports the results of several months of study relating to participation. It finds:

- In the 1980s the rate at which new high school graduates enrolled in Minnesota colleges fluctuated somewhat from year to year, peaking at 48% in 1982 and 1987. The rate began a serious decline at the beginning of the 1990s and, for the last several years, has been below any point in the 1980s. In 1987 nearly half of Minnesota's graduates were enrolling immediately in a Minnesota college; by 1996 the comparable figure was 40%.

- The decline cannot be accounted for by more students enrolling out-of-state or by students delaying their enrollment for a year or two after graduation.

- Nationally, participation rates remained stable throughout the first half of the 1990s and have increased since then. Rank ordering the states from federal data, while not precisely correct because of data problems, shows that Minnesota's position has dropped substantially — from 9th to 21st place. Part of this drop is due to the decline in participation in Minnesota; part is due to the increase in participation in other states.

- Looking at the school districts from which the students graduated, the decline in the rate of participation is clearly widespread. In 1987, 208 districts sent at least 40% of their students immediately on to Minnesota higher education, and 72 of these sent over 50%. By 1996, only 117 sent at least 40%, with only 32 sending 50% or more. In 1996, over two-thirds (69%) of all districts (226 of 330) were sending a smaller proportion of their graduates on to college than in 1987.

- Some areas of the state have a greater decline than others. Generally speaking, greater Minnesota has been hit harder by the decline in participation than has the metro area. Rural districts have had greater declines overall than have urban districts, whether these urban districts are in or outside of the metro area.

- Both male and female participation rates declined over the last ten years, but the decline in participation is particularly strong among high school girls. In 1987, 52 % of female graduates enrolled compared to 45% of males. In 1996, the rates of both have changed substantially and the difference between them has narrowed, with females at 43% and males at 38%. The most serious decline for females was outside the metro area. In rural school

districts, over half (53%) of new female graduates in 1987 enrolled immediately in Minnesota higher education; by 1996 this proportion declined to one-third (34%).

- The highest participation rates are for whites and Asians in both 1987 and 1996. However, these are also the groups that experienced the greatest decline.

- In both ACT scores and GPAs, freshmen in 1996 are performing at higher levels than their counterparts in 1987. This may reflect improved preparation of students since all of the four-year schools have instituted a prescribed pattern of high school curriculum that applicants are expected to have completed, and many school districts have increased their graduation requirements. On the other hand, at least some of the increases in grades and test scores may indicate that the decline in participation is a result of fewer students with lower grades or test scores choosing to go on to college.

- To estimate the enrollment effects due to participation changes, we calculated how many additional students would have enrolled in Minnesota higher education since 1987 if participation rates from 1988 through 1996 remained at the 1987 level of 48%. Despite the changes in the size of the graduating classes, this rough calculation indicates that about 25,500 additional Minnesota high school graduates would have enrolled on Minnesota campuses had participation remained at 48% since 1987.

- MnSCU has been hardest hit by the participation declines. For all MnSCU two- and four-year campuses, the proportion of new high school graduates enrolling has declined from 27% to about 22%. While a decline of this size does not explain all of the enrollment decline at the MnSCU institutions this decade, it should be remembered that the effect of fewer new entering freshmen (NEF) is cumulative, in that over the course of a few years smaller incoming freshman classes produce a significantly smaller student body.

- There does not appear to be one cause of declining participation. However, several factors together may be important, including a strong economy, increased costs of attendance, and stricter preparation requirements. Some suggest that MnSCU campuses may have been hurt because the merger of the three former systems diverted campus attention away from students. What these factors seem to indicate is that high school students who are academically and/or economically "marginal" are not going on to higher education in the same numbers that they were ten years ago. Since the declines are greater in rural Minnesota and especially among females, these may be the "marginal" populations most affected. And since these populations historically have been served most by the MnSCU institutions, this may explain why these campuses are most affected.

Introduction

In January 1998, House Research issued a report examining the changes in higher education enrollment from the mid-1980s through the mid-1990s. This report showed substantial changes in enrollment over this period, particularly for undergraduates: between 1986 and 1990 undergraduate enrollment grew from 195,000 to 235,000, an increase of nearly 40,000; by 1996 undergraduate enrollment declined to 213,000, a decrease of more than 21,000.

One major purpose of the study was to try to determine why these changes had occurred, but we found no clear answers to this question. We were able to determine that the rate at which new high school graduates were enrolling in college had declined during the 1990s and that this factor needed more study. This paper reports the results of several months of analysis of the changes in the "participation rate" in Minnesota.

The participation rate measures the proportion of a particular group that is enrolled in a post-secondary institution. For purposes of this paper, it is used to refer to the percentage of high school graduates in a given year who enroll in college the following fall. While this ignores older, nontraditional students, new high school graduates compose the largest segment of higher education enrollment.

Most of the data for this report are from the student record data base collected and maintained by the Higher Education Services Office (HESO) and from the secondary graduation data collected and maintained by the Department of Children, Families and Learning (DCFL). As has been pointed out in several previous reports, Minnesota does not have good data for in-depth analyses of higher education issues. There are serious questions of reliability in some of the data and information is missing or inadequately reported for some campuses. Additionally, there is very limited information that is collected centrally about student characteristics and academic decisions, so many relevant questions and concerns cannot be addressed. We have corrected the errors to the extent possible, but the findings and conclusions in this report are limited to those for which adequate information is available.

The report is organized in a question/answer format to make it quicker and easier for readers to find the information they are seeking. It is divided into three sections:

Part 1: State Trends
Overview of the changes and some context for understanding their relevance.

Part 2: Analyzing the Changes
Examination of changes in participation from the perspective of 1) those sending the students — school districts and regions graduating the high school students, and 2) those receiving the students — college and university campuses enrolling the new freshmen.

Part 3: Conclusions/Policy Implications
Analysis of what these changes mean and their possible relevance to state education policy.

Part 1: State Trends

This section examines the changes in the rate of college participation by new high school graduates — that is, the percentage of high school graduates in a given year who enroll in college the following fall. The concentration here is on the ten-year period from 1987 to 1996. This is the period that marks the high and low points of participation in Minnesota. It is also a period of tremendous swings in post-secondary enrollment. These changes are related, although the changes in participation do not wholly account for the changes in enrollment (see the House Research report, *Higher Education Enrollments: Current Conditions and Recent Trends*, for a detailed discussion of enrollment changes).

This section begins with a brief look at the changes in undergraduate enrollment from the 1980s to the 1990s. (It should be noted that the changes discussed here all predate the declines this fall which have been attributed to semester conversion.) It then shows that the participation rate has declined significantly over this period by examining the changes in the number of students enrolling in college immediately after high school in Minnesota and in other states. It also looks at data to see if the decline is actually just a delay in enrollment.

The section concludes by looking at national trends and comparing participation in Minnesota to that in other states. It shows that participation is increasing nationally at the same time as Minnesota's rate declines, and that Minnesota has fallen considerably in state rankings of the rate at which high school students move on to college.

What happened to higher education enrollments over the last decade?

In January 1998, House Research issued a report examining the changes in higher education enrollment from the mid-1980s through the mid-1990s. This report showed substantial changes in enrollment over this period, which are most evident in undergraduate enrollment: between 1986 and 1990 undergraduate enrollment grew from 195,000 to 235,000, an increase of nearly 40,000; by 1996 undergraduate enrollment declined to 213,000, a decrease of more than 21,000. Figure 1 shows the changes in headcount by sector.

The greatest changes occurred in two sectors — the state universities and the two-year colleges.[1] In both, enrollment increased dramatically in the late 1980s and early 1990s, followed by a substantial decline. Changes in full year equivalent enrollment (FYE) followed the same pattern but were not as extreme. For the state universities, the decline in the 1990s returned the FYE to within 22 of the 1986 number.

The University of Minnesota, in a strategy endorsed by the legislature, deliberately reduced undergraduate enrollment for a few years beginning in the late 1980s. Its enrollment has stabilized and begun to grow again in the last few years. Undergraduate enrollment in the private colleges grew slightly in the late 1980s and was very stable throughout the 1990s.

What is a "participation rate," and how does it relate to enrollment?

The participation rate measures the proportion of a particular group that is enrolled in a post-secondary institution. For purposes of this paper, it is used to refer to the percentage of high school graduates in a given year who enroll in college the following fall. Since new high school graduates compose the largest segment of higher education enrollment, a change in the proportion going on can affect enrollment seriously. (New high school graduates from Minnesota make up about two-thirds of the entering freshmen class each year at the state's four-year institutions.) A decrease in the size of the freshman class lowers enrollment on a campus for about five years. If several successive classes are smaller, the overall effect on campus enrollment is particularly profound.

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[1] As of 1994, data are no longer available in a format that allows separation of community and technical college enrollment. Therefore, they are shown together in all figures.

Figure 1
Changes in Undergraduate Headcount Enrollment by Sector
1986 to 1996

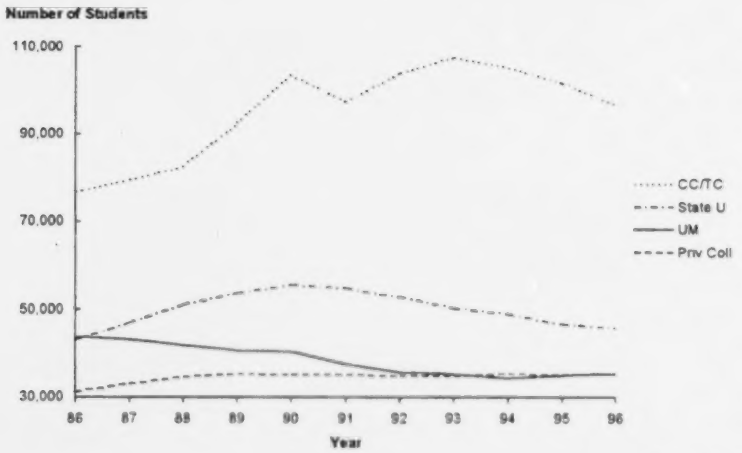

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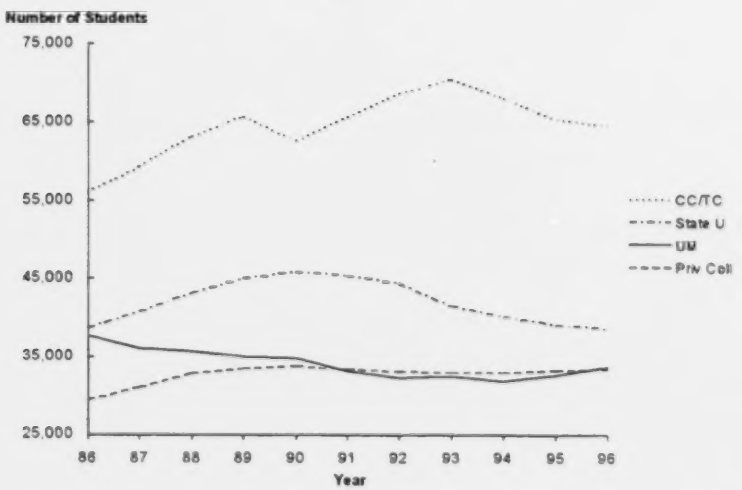
Figure 2
Changes in Undergraduate FYE Enrollment by Sector
1986 to 1996



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Has the participation rate changed in Minnesota?

The best data on participation come from the enrollment data base maintained by the Higher Education Services Office (HESO) from campus and system reports. Using those data it is possible to see changes in the proportion of Minnesota high school graduates who enroll the following fall at Minnesota campuses.

Figure 3 tracks the changes in participation rates of new high school graduates beginning in 1980. In the 1980s the rate at which new high school graduates enrolled in Minnesota colleges fluctuated somewhat from year to year, peaking at 48% in 1982 and 1987. The rate began a serious decline at the beginning of the 1990s and, for the last several years, has been below any point in the 1980s.

In 1987 nearly half of Minnesota's graduates were enrolling immediately in a Minnesota college; by 1996 the comparable figure was 40%.

What about Minnesota graduates who attend college in another state?

Many new Minnesota graduates leave the state for college. Reciprocity agreements with Wisconsin and the Dakotas encourage some of this migration. The proximity of the metro area to Wisconsin makes it attractive for many students to attend western University of Wisconsin campuses.

Little information is collected about students attending college in other states. The only centralized data are from the federal Department of Education's Integrated Postsecondary Education Data System (IPEDS) which collects reports from all institutions, including a count of the home states of freshmen who are new high school graduates. Using this information, plus information on students from Minnesota provided by the University of Wisconsin, we can look at the total enrollment figures for new graduates.

Figure 4 shows the changes in the proportion of new Minnesota high school graduates enrolling immediately in college when out-of-state colleges are included. The data begin with 1988, the first IPEDS report available on this subject. The reported 1988 rate is probably somewhat lower than the real rate because data were missing from a number of colleges in other states.[2] Keeping this in mind, the proportion of students enrolling out of state increased in the last ten years, but not enough to offset the decline in the in-state participation rate over this period. Most of the increase is between 1988 and 1992. While in-state rates continued to fall from 1992 to 1996, the out-of-state rate remained stable, confirming the overall decline in participation.

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[2] Federal data are reported only in even years. 1990 data were not released because of reporting problems; therefore, this year is missing from the analysis.

Figure 3
% Minnesota High School Graduates
Enrolling Immediately in Minnesota Higher Education
1980 to 1996

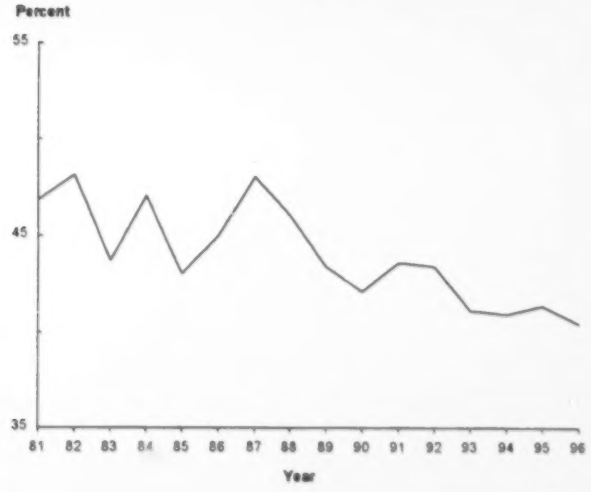

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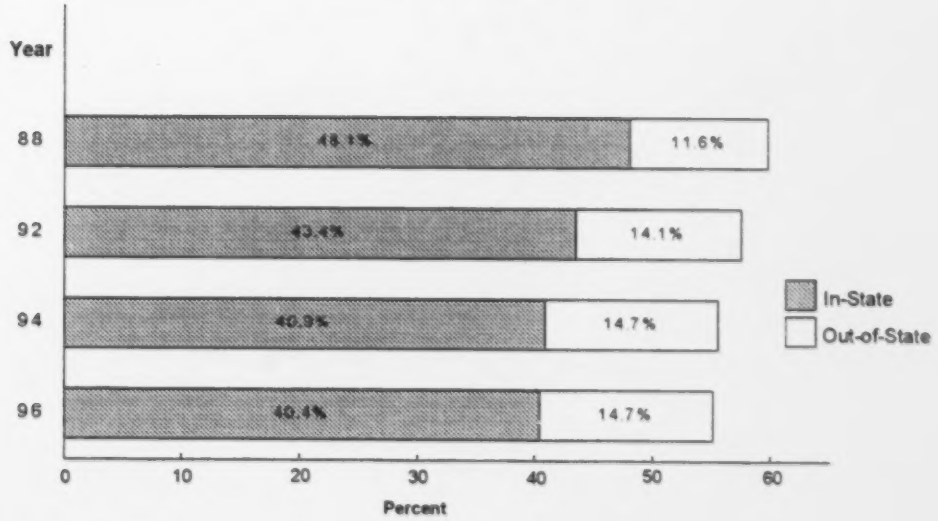
Figure 4
% Minnesota High School Graduates
Enrolling Immediately In- and Out-of-State
1988 to 1996



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Are students simply waiting a year or two after graduation to enroll?

There is no evidence that the decline in participation is a result of students delaying enrollment. Figure 5 compares the percentage of 1987 and 1995 new high school graduates whose initial enrollment is within three years of graduation. The vast majority in each class enroll in the fall immediately after graduation. Looking one and two years out, the class of 1987 continued to enroll at a slightly higher rate in those next two years than did the class of 1995.

How does the decline in Minnesota's participation compare to national trends?

Historically, participation rates increased dramatically everywhere in the country beginning with the returning veterans from World War II. Prior to that time, college was reserved for a select group of students who were academically and/or economically exceptional. Census reports show these increases continuing nationally until the early 1970s, then declining following the end of the Vietnam war and the draft.

The rates pick up again in the mid-1980s, rise to a national average of about 62% by 1991 (including those going out-of-state), and remain stable through 1995. In 1996 and 1997, the national average increased to 65% and 67%, respectively. These data are not available by state, but the recent national trends in the 1990s do not correspond to what we know about Minnesota.

Using the federal IPEDS data discussed earlier, we can compare Minnesota's enrollment trends to the other states. As mentioned before, these data are not wholly reliable, but they have improved over time and it appears that the general trends are accurate even though the precise numbers may be off a bit.

One serious problem with these data is that they do not account for high school dropouts. This means that a state with a high dropout rate will likely improve its participation rate because it will have a smaller, more select group of high school graduates. Therefore, we have "corrected" the participation rate and the ranking for each state by substituting the number of 10th graders enrolled in each state two years earlier for the number of graduates.

Figure 6 is a table of the rank order of the states in participation for 1988 and 1996 with each year corrected for dropouts. While the rank order may not be precisely correct because of data problems, the trend clearly shows that Minnesota's position has dropped substantially — from 9th to 21st place. Part of this drop is due to the decline in participation in Minnesota; part is due to the increase in participation in other states.

There has been a decline in nearby states as well. Iowa, North Dakota, and Illinois each fell a few places but all remained in the top ten. Wisconsin dropped from 6th to 16th and South Dakota from 26th to 30th.

Figure 5

% Minnesota High School Graduates Enrolling in Minnesota Higher Education Within Three Years of Graduation 1987 and 1995

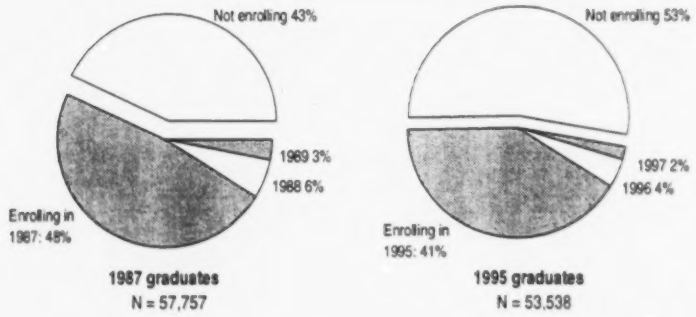

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Figure 6[3]

Rank Ordering of States by the % of High School Graduates Enrolling in College Immediately 1988 and 1996

1. Iowa	26. So. Dakota	1. New Jersey	26. Vermont
2. No. Dakota	27. Indiana	2. Massachusetts	27. Louisiana
3. Nebraska	28. Wyoming	3. No. Dakota	28. Alabama
4. Vermont	29. Delaware	4. Connecticut	29. Washington
5. Connecticut	30. New Hampshire	5. Delaware	30. So. Dakota
6. Wisconsin	31. New York	6. Iowa	31. Missouri
7. Massachusetts	32. Missouri	7. Nebraska	32. Georgia
8. Illinois	33. Texas	8. Rhode Island	33. Kentucky
9. **MINNESOTA**	34. Georgia	9. Illinois	34. So. Carolina
10. Hawaii	35. Ohio	10. New York	35. Colorado
11. Kansas	36. Colorado	11. Hawaii	36. Tennessee
12. Pennsylvania	37. Tennessee	12. Pennsylvania	37. West Virginia
13. Michigan	38. So. Carolina	13. Maryland	38. Texas
14. Kentucky	39. Louisiana	14. New Hampshire	39. Utah
15. Maryland	40. West Virginia	15. Kansas	40. Arkansas
16. New Jersey	41. Arkansas	16. Wisconsin	41. Wyoming
17. California	42. New Mexico	17. Mississippi	42. No. Carolina
18. Rhode Island	43. Florida	18. Michigan	43. Oklahoma
19. Virginia	44. Nevada	19. California	44. Oregon
20. Oregon	45. Montana	20. Montana	45. New Mexico
21. Washington	46. Idaho	21. **MINNESOTA**	46. Idaho
22. Mississippi	47. Oklahoma	22. Maine	47. Florida
23. Arizona	48. Utah	23. Indiana	48. Arizona
24. Alabama	49. Alaska	24. Ohio	49. Alaska
25. No. Carolina	50. Maine	25. Virginia	50. Nevada

[3] Rankings are corrected for dropouts by substituting the number of 10th graders enrolled in 1986 and 1994, for the number of graduates in 1988 and 1996, respectively.

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Part 2: Analyzing the Changes

There are no easy answers to explain the decline in participation. We have tried to find out why, but there does not appear to be any one reason that this is occurring. The answer probably lies in some combination of reasons. This is discussed in Part 3 – Conclusions and Policy Implications. In this section the focus is on trying to understand the changes by looking at factors associated with participation from two directions — the school districts and regions of the state from which new college freshmen come, and the campuses around the state that receive these freshmen.

How does the participation rate of new high school graduates vary by school district?

The maps on the following two pages show the 1987 and 1996 rates at which new public[4] high school graduates from each school district enrolled the following fall in higher education in Minnesota. These maps demonstrate that the decline in the rate of participation is widespread. In 1987, 208 districts sent at least 40% of their students immediately on to Minnesota higher education, and 72 of these sent over 50%. By 1996, only 117 sent at least 40%, with only 32 sending 50% or more.[5]

The decline is not only in those districts that previously had a high rate of participation. In 1996, over two-thirds (69 %) of all districts (226 of 330) were sending a smaller proportion of their graduates on to college than in 1987. Districts of all sizes and in all parts of the state are affected.

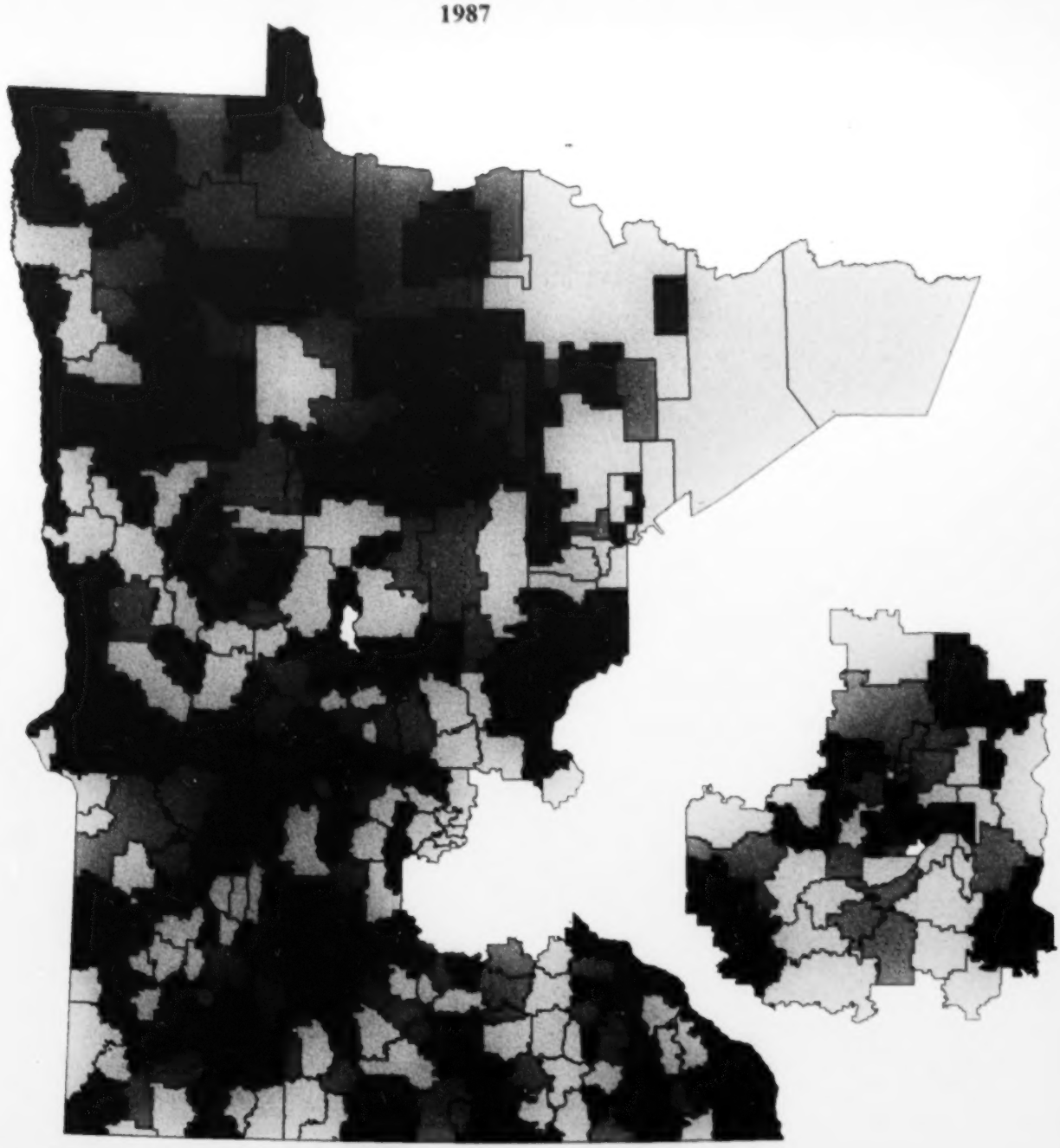
[4] For the purpose of any school district analysis, private high schools are excluded.

[5] A number of smaller districts in greater Minnesota consolidated between 1987 and 1996. For purposes of this study, we "consolidated" these districts in 1987 to maintain an equal number of districts, and to treat consistently those that had changed across the years.

Figure 7

% of New High School Graduates Enrolling in Minnesota the Following Fall by School District

1987



Number of districts in each category is shown in parentheses

0 - 29% (38)	35 - 39% (52)	45 - 49% (62)
30 - 34% (32)	40 - 44% (74)	50 - 100% (72)

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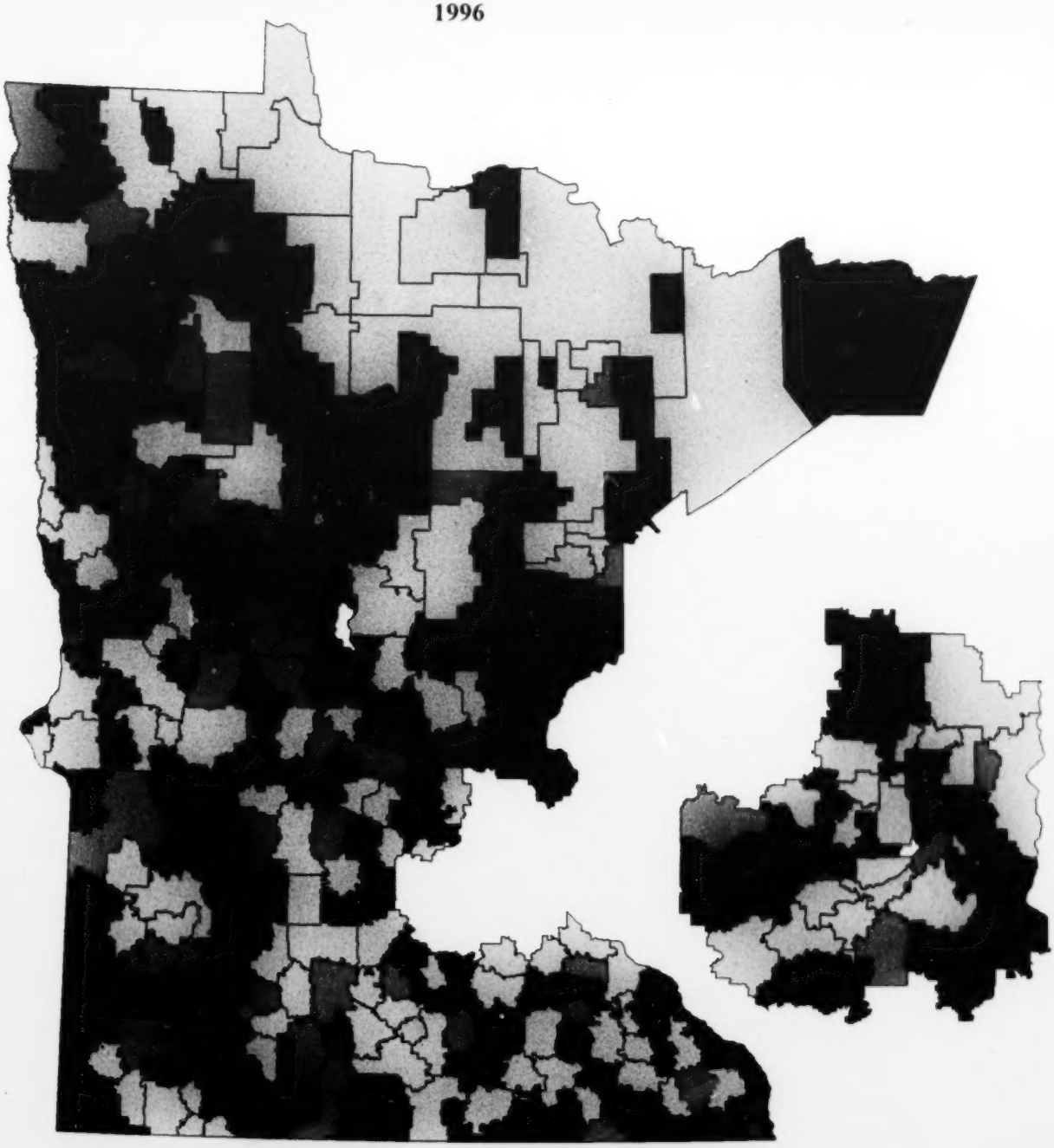
Figure 8

% of New High School Graduates Enrolling in Minnesota the Following Fall by School District

1996



Number of districts in each category is shown in parentheses

0 - 29% (94)	35 - 39% (59)	45 - 49% (33)
30 - 34% (60)	40 - 44% (52)	50 - 100% (32)

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Is the decline distributed equally around the state?

Given the large number of districts, it is easier to analyze the changes if they are categorized in some way. One way to do this is to look at the changes regionally by using the economic development regions. The changes in the percent of students participating by region are displayed on the opposite page.

It is apparent from the chart that the changes are not distributed equally. Some areas of the state have a greater decline than others. Generally speaking, greater Minnesota has been hit harder by the decline in participation than has the metro area. Rural districts have had greater declines overall than have urban districts, whether these urban districts are in or outside of the metro area.

Two regions in the northern part of the state experienced the greatest decline. Participation in region 3 dropped from 45% to 33%, while region 1 moved from 46% to 36%. Elsewhere in the state regions 5, 6, and 10 declined 8% to 9%. For all of these regions, changes in participation vary across the numerous school districts, but regional declines of this magnitude mean that most districts in the region are sending significantly fewer graduates to college now than they were ten years ago

Two regions — 4 and 9 — show no decline. Referring back to the district maps (see pages 13-14), it is apparent that some districts within these regions have experienced decline, but they are offset by gains or at least stability in others. Generally speaking, the districts with the smallest enrollment in these areas had a greater decline than the urban districts in the regions.

The metropolitan region is so large — accounting for nearly half the graduates in the state — that the total numbers in the chart don't mean too much. To help make some sense of this region, we divided it into three parts: the central city districts of Minneapolis and St. Paul, the inner ring suburbs which include all districts that touch some part of a central city district, and the outer ring suburbs

Using these divisions, the central cities show a gain of 1% and the inner ring suburbs a loss of 1%, while the outer ring suburbs declined by 5%. Participation in the central cities was low compared to the rest of the state in 1987. The 1% gain does not move it up; however, it no longer appears to be outside the mainstream because of declines in participation in other parts of the state. The suburbs, especially in the outer ring, experienced decline, but it is difficult to generalize about them because they display significant variation (see district maps pages 13-14).

Figure 9
% of New High School Graduates Enrolling in Minnesota the Following Fall by Economic Development Region 1987 and 1996

House Research Graphics

Region 1 Total % enrolling **1987 = 46%** **1996 = 36%**	**Region 4** Total % enrolling **1987 = 48%** **1996 = 48%**	**Region 7** Total % enrolling **1987 = 39%** **1996 = 35%**	**Region 10** Total % enrolling **1987 = 42%** **1996 = 33%**
Region 2 Total % enrolling **1987 = 45%** **1996 = 40%**	**Region 5** Total % enrolling **1987 = 45%** **1996 = 36%**	**Region 8** Total % enrolling **1987 = 56%** **1996 = 50%**	**Region 11** Total % enrolling **1987 = 39%** **1996 = 36%**
Region 3 Total % enrolling **1987 = 46%** **1996 = 33%**	**Region 6** Total % enrolling **1987 = 55%** **1996 = 45%**	**Region 9** Total % enrolling **1987 = 42%** **1996 = 42%**	

Have both males and females declined in their college participation?

Although there has been a lot of media attention lately to the disproportionate growth in female students and accompanying decline in males, Minnesota's experience is not in keeping with national reports. Females have attended college at a higher rate than males in Minnesota for many years.

Both male and female rates declined over the last ten years, but as Figure 10 shows, the decline in participation is particularly strong among high school girls. In 1987, 52% of female graduates enrolled compared to 45% of males. In 1996 the rates of both changed substantially and the difference between them narrowed, with females at 43% and males at 38%.

While female participation fell all over the state, the most serious decline for females was outside the metro area. In rural school districts, over half (53%) of new female graduates in 1987 enrolled immediately in Minnesota higher education; by 1996 this proportion declined to one-third (34%). In city school districts outside the metro area, the participation rate for females fell from 48% to 34%. Figure 10 displays these changes by type of district.

Has the decline in participation affected all ethnic groups equally?

Participation changes vary among different ethnic groups as well. The highest participation rates are for whites and Asians in both 1987 and 1996. However, these are also the groups that experienced the greatest decline. For Hispanics, American Indians, and African Americans participation declined between 2% and 4%. Asian and white participation declined 8% to 9%.

To complicate this, there has been a significant increase in the number of graduates of each minority group except American Indians, while there has been a decline in the number of white graduates. Further, there has been an increase in dropouts among all groups, but it has been more pronounced among minorities.

Figure 11 shows the participation of students by ethnicity. Because of the small size of some of the groups, percentages can fluctuate dramatically even though actual changes may not be as extreme. Therefore the actual numbers are included as well as the percentages.

Figure 10
% High School Graduates Enrolling by Gender by Location of School District 1987 and 1996

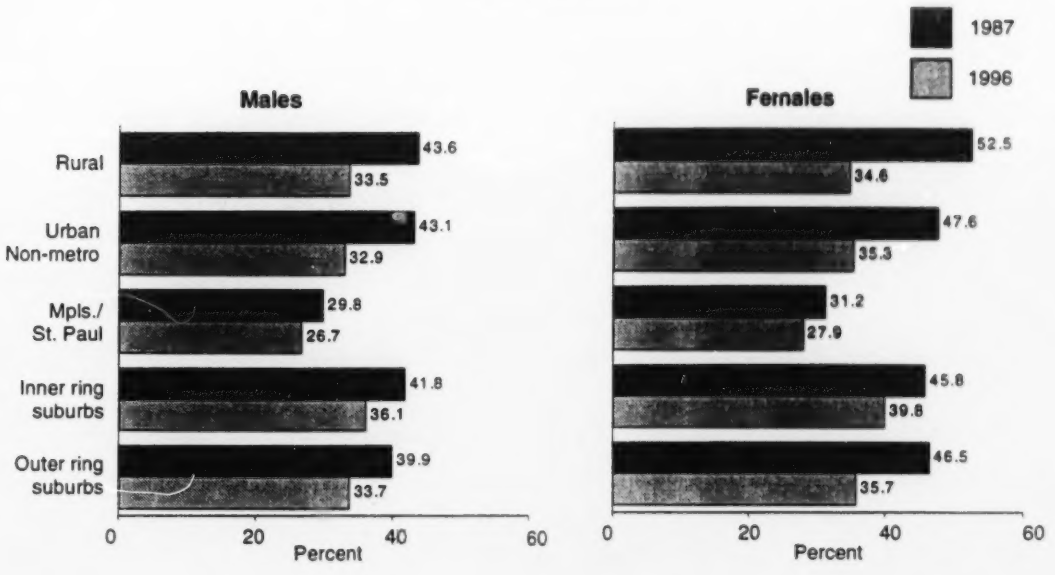

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Figure 11
% High School Graduates Enrolling by Ethnicity 1987 and 1996

	1987			1996		
	# Grads	# New Freshmen	% Participating	# Grads	# New Freshmen	% Participating
African American	742	176	23.7%	1,065	232	21.8%
Hispanic	333	103	30.9%	659	180	27.3%
American Indian	459	148	32.2%	469	139	29.6%
Asian	964	428	44.4%	1,510	538	35.6%
White	50,911	21,842	42.9%	45,443	15,331	33.7%
TOTAL	**53,409**	**22,697**	**42.5%**	**49,146**	**16,420**	**33.4%**

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Are there changes in the academic qualifications of participating students?

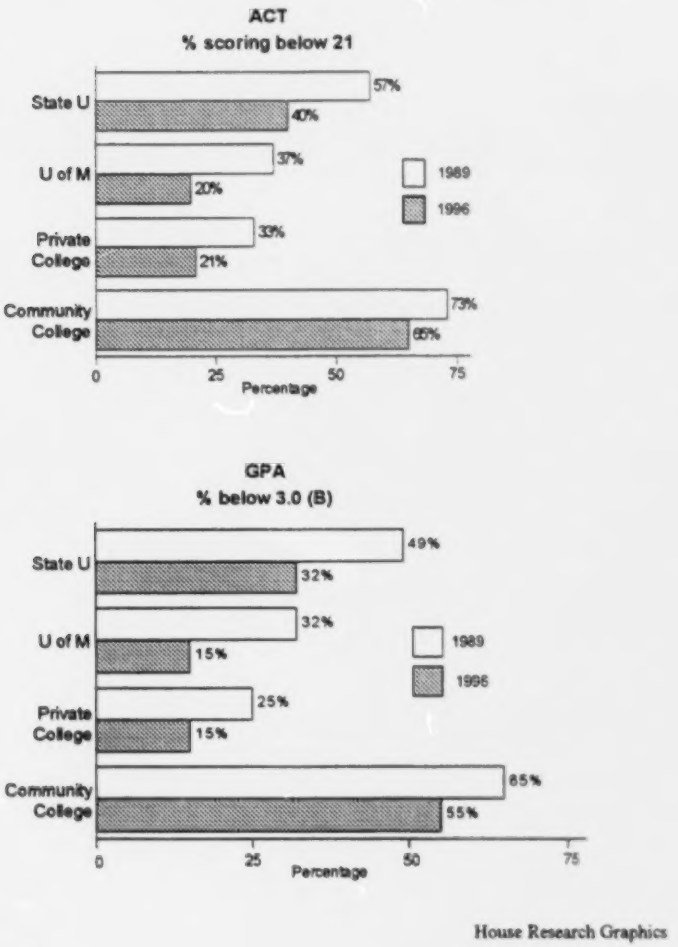
Little information is available centrally about the performance of incoming students. The American College Testing program (ACT) provided us with summary information by higher education sector about enrolling Minnesota freshmen who took the ACT test. The ACT is generally required for admission to a four-year campus in Minnesota; therefore, changes reported are reasonably accurate measures of changes in incoming freshmen. Two-year campuses do not require the ACT, so information reported for them is not necessarily an accurate reflection of most incoming freshmen.

Figure 12 compares some of this information for students from 1989 and 1996 by showing changes in the average ACT scores and in the distribution of these scores. Additionally, the ACT reports categories of students' grade point averages. The change in these is also displayed in Figure 12.

In both ACT scores and GPAs, freshmen in 1996 are performing at higher levels than their counterparts in 1987. This may reflect improved preparation of students since all of the four-year schools have instituted a prescribed pattern of high school curriculum that applicants are expected to have completed, and many school districts have increased their graduation requirements.

On the other hand, at least some of the increases in grades and test scores may indicate that the decline in participation is a result of fewer students with lower grades or test scores choosing to go on to college.

Figure 12
Changes in Entering Students' ACT Scores and Grade Point Averages (GPA) by Higher Education Sector 1989 and 1996



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How do changes in the number of graduates and in participation rates relate to changes in higher education enrollments?

A decline in the number of new high school graduates can take a major toll on post-secondary enrollments because new graduates make up most of higher education's new entering freshmen (NEF). (New high school graduates from Minnesota make up about two-thirds of the NEF each year at the state's four-year institutions.)

Since the number of graduates in a given year is a matter largely beyond the public policy makers in the legislature, it is more useful to concentrate on the enrollment effects of the decline in participation. To estimate the effects of the decline due to participation changes, we calculated how many additional students would have enrolled in Minnesota higher education since 1987 if participation rates from 1988 through 1996 remained at the 1987 level of 48%. Despite the changes in the size of the graduating classes, this rough calculation indicates that a total of about 25,500 additional Minnesota high school graduates would have enrolled on Minnesota campuses had participation remained at 48% since 1987.

Has the decline in participation affected each higher education sector equally?

Figure 13 shows the percentage change in participation rates by sector for 1987 and 1996. We calculated the percentage change rather than using the actual percentage because the small numbers at the campus level don't readily show the magnitude of the changes. For example, Moorhead State enrolled 1.25% of the high school class of 1987 and 1.1% of the high school class of 1996. This may sound like a minor change, but it translates to a difference of about 125 freshmen. Therefore, this is presented in the figure opposite as the percent that the change represents; in the case of Moorhead this amounts to 12%.

MnSCU has been hardest hit by the participation declines. For all MnSCU two- and four-year campuses, the proportion of new high school graduates enrolling has declined from 27% to about 22%. While a decline of this size does not explain all of the enrollment decline at the MnSCU institutions this decade, it should be remembered that the effect of fewer NEF is cumulative, in that over the course of a few years smaller incoming freshmen classes produce a significantly smaller student body.

Not all MnSCU campuses have been affected equally. Figure 13 includes the rate of change in participation at MnSCU campuses. State universities are shown by campus. Due to the large number of campuses and some unreliability of data, two-year colleges are shown only as metro or greater Minnesota.

The University of Minnesota also had a significant drop, although less than MnSCU. In 1987 the University enrolled 8.4% of all new high school grads; by 1996 this dropped to 6.9%. Most of the decline was at the Twin Cities campus, attributable to the planned overall reduction in undergraduate enrollment. At the private colleges participation rates remained quite stable.

Figure 13
% Change in the Participation Rate by Higher Education Sector
1987 and 1996

Sector	% Change 1987 and 1996 Participation
State U	-21%
Bemidji	-14
Mankato	-38
Moorhead	-12
St. Cloud	-22
Southwest	0
Winona	0
U of M	-17
Crookston	-8
Duluth	-4
Morris	-24
Twin Cities	-23
Private Coll.	-3
2-yr. Colleges	-19
Metro Area	-19
Greater MN	-19

Part 3: Conclusions and Policy Implications

This paper has demonstrated that there has been a serious decline in this decade in the number of new high school graduates in Minnesota going on to college. The questions that remain to be answered are "why" and "so what."

The second question is easier and more readily answered. There are a number of reasons to be concerned if able students are not pursuing an education after high school. People who pursue higher education are "better" citizens, in that they more actively participate in and support social institutions and cultural activities. They are more likely to vote and be politically active, more involved with schools, churches, and volunteer activities. They are more likely to be tolerant of differences of opinions and traditions in a diverse society. Additionally, people with more education cost the government less in areas such as health care, human services, and corrections.

Economically, higher education is becoming the key difference between the "haves" and the "have nots." Just as high school graduation was the key to a good job 30 or 40 years ago, at least some college education has now become the key. Nationally, the Census Bureau reports the average family income of high school graduates as $11,000 less than the income of those with an associate degree, and $22,000 less than those with a baccalaureate degree. In turn, those making higher incomes pay more taxes to support the services provided by all levels of government.

Minnesota has had a very successful economy the last few years, and, even when the economy was not as successful earlier in this decade, Minnesota was hit less hard than many parts of the country. Many attributed this to the highly skilled workforce in the state which, in turn, was attributed to the high level of education. A decline in the proportion of high school graduates going on in school does not bode well for the future economy of the state. This could be even more significant in light of the increased levels of participation in other states in the last few years. While the national data are not perfect, Minnesota's fall from 9th to 21st in the ranking of states sending students on to college should not be ignored as an economic indicator.

Although we have a spent a couple of years looking at enrollment declines in the MnSCU system, and several months looking specifically at the issue of participation, it is not clear why this change is occurring. We cannot find evidence of one particular event or condition that is discouraging students from going on to college. However, we can put forward a number of possible explanations for the decline in college participation.

- The most commonly offered suggestion is that participation has declined because of the good economy. Historically, a strong economy has meant that high school graduates can get decent paying jobs without going on to college. This probably does explain some of the lack of participation in the last couple of years at the two-year institutions. It does not explain the continual decline through the 1990s since the economy was not strong in the first half of the decade, nor does it necessarily explain much of the decline at the state universities.

- The economic argument has a flip side in that the economic distress in parts of greater Minnesota may be causing fewer students from those areas to go on to college. This may help

explain why the greatest decline in participation is in the rural areas of the state.

- Increased costs may be a contributing factor. Tuition increased substantially in the first half of the 1990s. At the same time federal financial aid, in the form of grants, declined. MnSCU tends to attract more students with lower incomes than do the private colleges or the University of Minnesota so this might explain why MnSCU is hardest hit by this decline.

- Preparation requirements went into place at the University of Minnesota in 1991 and at the state universities in 1994. These require high school students to complete a rigorous curriculum in order to be admitted. While there was sufficient time for students to prepare before the changes were instituted, it may be that students who were less academically inclined did not choose to complete the curriculum and, therefore, did not pursue college when they graduated. This would be likely to affect the state universities more than the University of Minnesota, since the state universities have historically enrolled students with somewhat lower academic credentials. This may help explain the drop in the numbers of enrolling students with lower ACT scores and GPAs.

- Some have suggested the merger of the community colleges, state universities, and technical colleges has contributed to the decline. While no one suggests that students choose to attend or not attend college because of the governance structure, the focus of many administrators, faculty, and staff since enactment of the merger in 1991 has been on a number of practical issues such as employment changes, new information systems, and campus consolidations. If enough attention is going to areas such as these, then it is probably diverting attention from courses, student services, and campus life. Students who do not feel well served may pass this information back to friends still in high school. Some may choose to attend other colleges, but those who were unsure about attending college may decide it isn't worth going at all. It doesn't take long for enrollments to suffer via word-of-mouth from other students.

While none of these explanations stands alone, together they may help explain the decline in Minnesota's participation. What they seem to indicate is that high school students who are academically and/or economically "marginal" are not going on to higher education in the same numbers that they were ten years ago. Students who can find decent jobs, whose families are hard pressed to find the resources necessary for college, or who are not academically strong in high school may be deciding to forgo college in far greater numbers than ten years ago. Since the declines are greater in rural Minnesota and especially among females, these may be the "marginal" populations most affected. And since these populations historically have been served most by the MnSCU institutions, this may explain why these campuses are most affected.

As we move more into a post-industrial information age, fewer career opportunities will be available for these "marginal" populations if they are not well educated. This fact is compounded by the demographic changes Minnesota is facing that show that any enrollment increases in the future will likely come from populations that are "marginal" in their relation to higher education, such as "first generation" students whose parents did not attend college, minorities, and low- and moderate-income families. These segments of the population are growing at a much faster rate than the white, upper middle class professional segment is, and their economic success will help form the backbone of the labor force of the 21st century.